

2014 Chicago Wilderness Congress

Session IV: Climate Action



Partners with Parks

Climate Change Research in Great Lakes National Parks and the Region

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Great Lakes Research and Education Center

National Park Service: Directives on Climate Change

address current and future effects of climate change



[Climate Change Response Strategy \(2010\), A Call to Action](#)

(Action Item 21: Revisit Leopold 2011)

- A member of the IPCC panel is the lead NPS Climate Change Scientist.
- NPS supports science, communication, adaptation, and greenhouse gas (GHG) mitigation.

[Green Parks Plan and Climate Friendly Parks \(2010-2012\)](#)

- NPS is committed to Green Energy, reduction of GHGs, reduced water use, and increased sustainability, reduced carbon footprint.

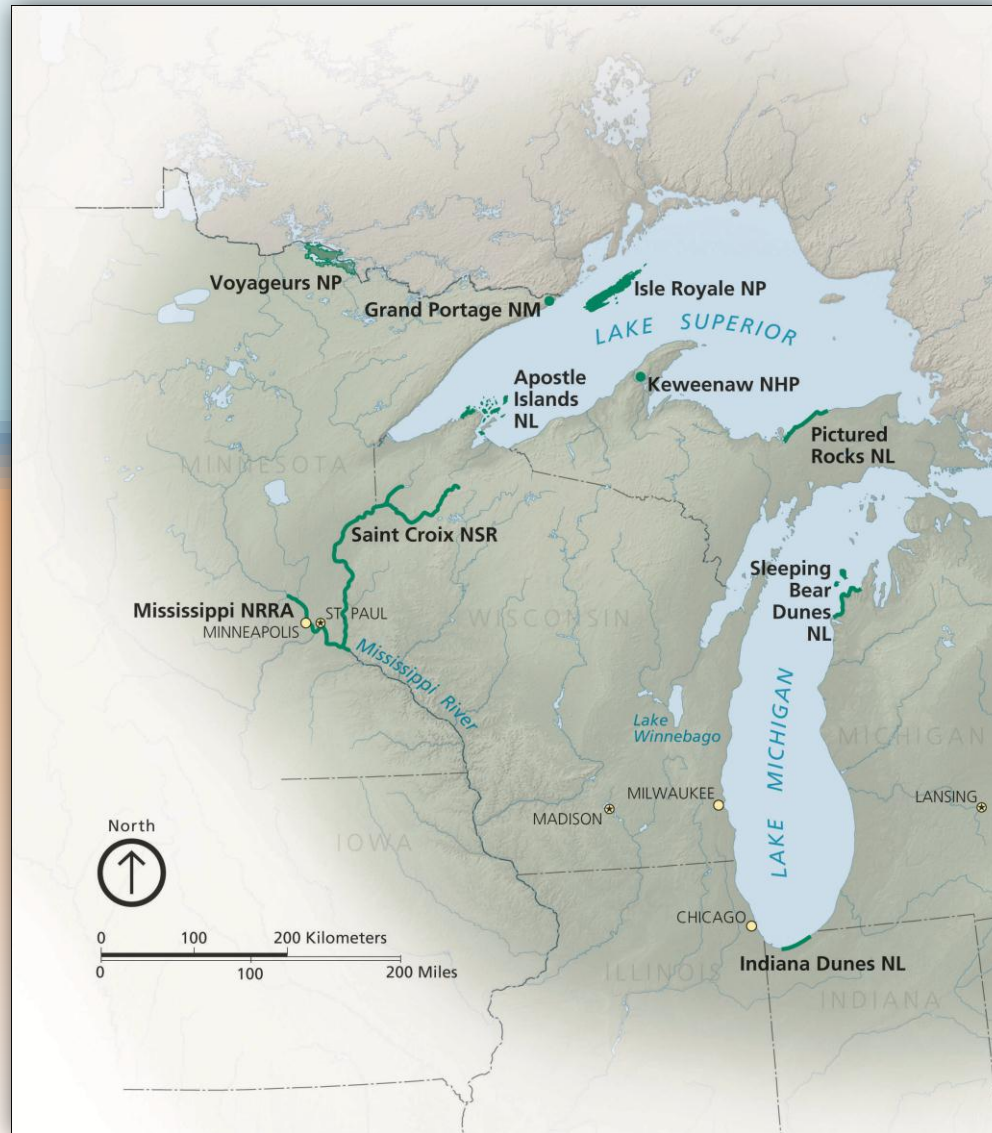
[Revisiting Leopold: Resource Stewardship in the National Parks](#) (2012)

- NPS provides opportunities via SCA, Conservation Corps, volunteers, and internships for people to work with park managers on climate change and other projects.

[Climate Change Action Plan](#) (2012)

- NPS coordinate research and education efforts with other partners such as National Park Conservation Association, Chicago Wilderness, The Nature Conservancy, university researchers, FWS and USGS to assist parks in climate change planning, such as development of vulnerability assessments and adaptation strategies.

The Great Lakes Research and Education Center at Indiana Dunes National Lakeshore Facilitates Climate Change Investigations and Communication in 10 Great Lakes National Parks



Indiana Dunes National Lakeshore, IN

How Will Amphibians Respond to Climate Change?

There has been an increase in Wood Frogs ($r = 0.836$) and Blue-spotted Salamanders ($r = 0.625$); no Four-toed Salamanders in 2013 and no Slimy Salamanders since 2011.

Robert Brodman, Saint Joseph's College, IN.





Sleeping Bear Dunes National Lakeshore, MI



How do microbial symbioses affect plant communities and what are ecosystem responses to climate change? (temperature and precipitation experiment)

NPS and George Wright Climate Change Fellowship Program



**Lukas Bell-Dereske, University
of New Mexico**

<http://ccyi.org/index.php/fellowships/>

Isle Royale National Park



How will projected temperature increase and lake effect impact forest structure and moose populations?



Deployed temperature logger and funnel apparatus

(Credit: Ron Moen); project was supported by a GLREC research Internship.

ISLE ROYALE NATIONAL PARK Moose-Forest Structure Temperature Project



Distribution of temperature logger transects (blue and brown) deployed in 2013



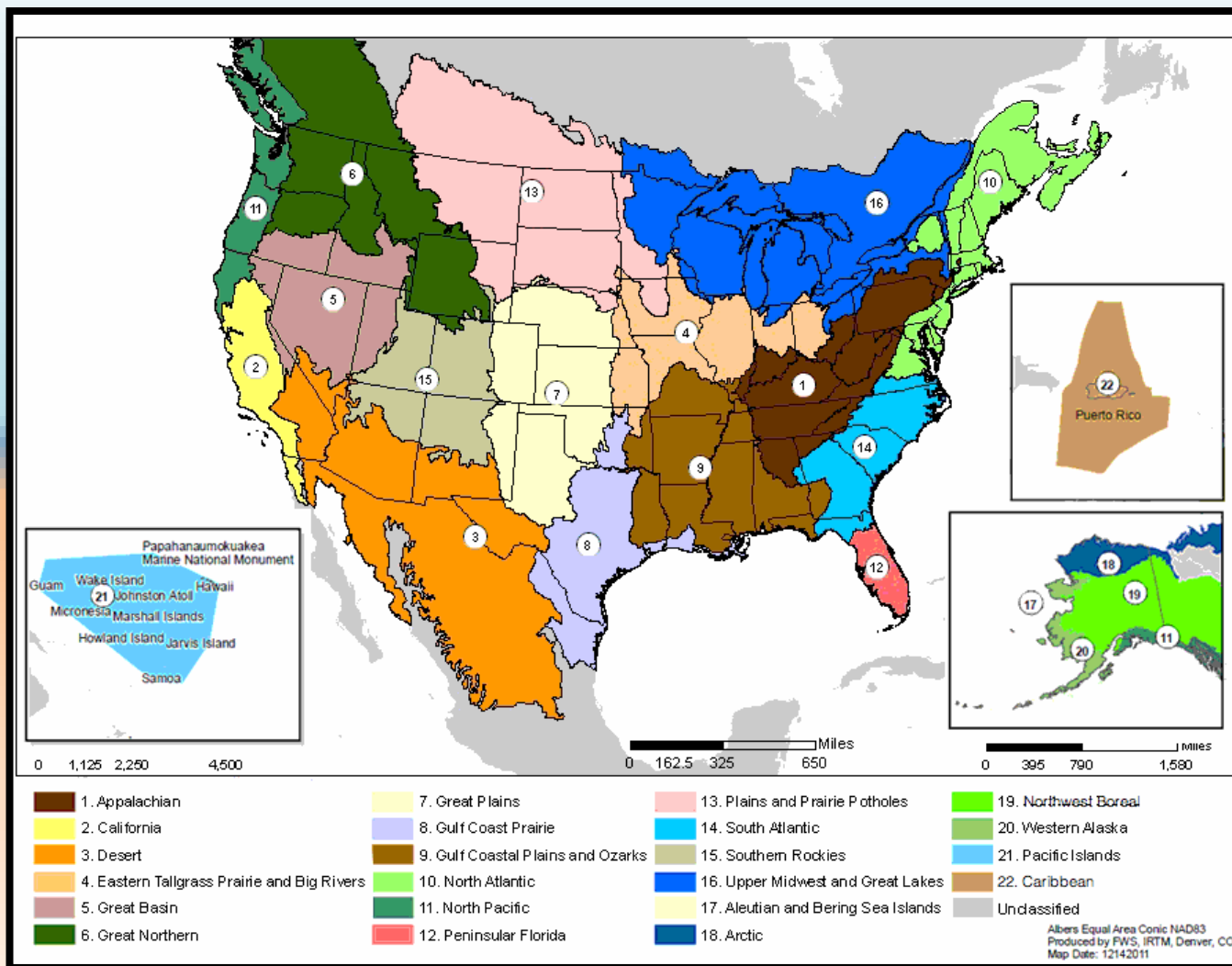


Climate Change Research in Parks is Multi-disciplinary and Requires Partnerships

- **Climate Change Mitigation and Adaptation – Rare, T&E Species, Environmental and Cultural Impacts; Develop Vulnerability Assessments**
- **Aquatic and Wetland Resources Protection and Rehabilitation**
- **Contaminants Remediation/Restoration**
- **Emerging Diseases and Pests – Wildlife and Human Health Impacts**
- **Invasive Species Management and Control**
- **Landscape Corridors for Wildlife – Integration with LCCs**

Creating Landscape Corridors on a Large Scale

Landscape Conservation Cooperatives (DOI Agencies)



Stay connected !



Climate Change Strategies for Northern Forests

Northern Institute of Applied Climate Science (NIACS / USDA Forest Service)

www.nrs.fs.fed.us/niacs/

Climate Change Response Framework

Partnerships

Vulnerability
Assessments

Forest
Adaptation
Resources

Demonstration
Projects (40)

CC Integrated
Into
Management

Projects

Use the map below to learn more about Framework projects in the region or state you are interested in. Additionally, three new Framework Projects are under development in 2014: Mid-Atlantic, New England, and Urban Forest Ecosystems. More information on these projects will be available in coming months.

